

REMARKS

In an Office Action dated February 27, 2007 (hereinafter the "Office Action"), Claim 1 was rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,870,079, issued to Hennessy et al. (hereinafter "Hennessy"). Applicants added new Claims 2-15 to more distinctly claim the subject matter which the applicants regard as the invention. Applicants respectfully request reconsideration and allowance of this application for the reasons set forth below.

Prior to discussing in detail why applicants believe that all of the claims in the application are allowable, a brief description of applicants' invention and the cited references is provided. The following discussion of the disclosed embodiments of applicants' invention and the teachings of the applied reference is not provided to define the scope or interpretation of any of applicants' claims. Instead, such discussed differences are provided to help the U.S. Patent and Trademark Office (hereinafter "the Office") better appreciate important claim distinctions discussed thereafter.

Summary of the Present Invention

The present invention is generally directed to assisting users in positioning a pointer. In this regard, a method is provided that adjusts pointer movement when input causes the pointer to intersect a guide area. If the projected movement does intersect a guide area, aspects of the present invention compute an adjusted coordinate position for the pointer. More specifically, a method is provided that receives regular notice of pointer movement events. In response to receiving notice of a pointer movement event, the method obtains the current and projected movement of the pointer. Then, a determination is made regarding whether the pointer will intersect a guide area during movement. If the pointer is scheduled to intersect a guide area, an adjusted coordinate position for the pointer is calculated so that pointer movement is redirected toward a target while inside the bounds of the guide area. In this regard, pointer movement

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inside the guide area is non-linear in one component direction in relation to movement of the input device. Then, the projected coordinate position of the pointer is replaced with an adjusted coordinate position.

Summary of Hennessy

Hennessy is purportedly directed to a method of operating a computer pointing device, such as a mouse, in a way that predicts the target of a user and automatically moves the pointing device to that target. In this regard, the path of travel and a rate of travel of a pointing device are computed. Display objects, such as buttons, which exist along or near the path of travel are identified and designated as potential targets. The rate of change in the position of the pointer is computed and used to determine whether a user is "slowing down" in approach to a specific display target. If certain deceleration criteria are met, then an object at a location that most closely matches the path of the pointing device is identified as the intended target. In this regard, once an intended target is identified, the pointer is automatically moved or "jumps" to the object that was identified as being the target. Accordingly, Hennessy is a type of acquisition aid developed to assist users in acquiring a target that is displayed on a computer display. However, the way in which Hennessy assists the user in acquiring a target requires that a pointer be automatically moved to the target from a certain distance away from the target. A drawback to this approach is that the size of a target is effectively enlarged so that other GUI objects that are presented on a display near another object may be difficult to acquire. For example, in the Hennessy system, if an error is made as to the intended target, a user may have difficulty in acquiring other proximately located objects. In other words, Hennessy has "side effects" to use of a pointer that are overcome by aspects of the present invention.

Double Patenting Rejection

The Office Action rejected Claim 1 in the present application as conflicting with Claim 1 of U.S. Application No. 10/828,890 under 37 C.F.R. 1.78 as containing conflicting subject matter. The claims in the present application and U.S. Application No. 10/828,890 have each been amended in order to maintain a clear line of demarcation between the applications. Accordingly, applicants request the withdrawal of the 37 C.F.R. 1.78 rejection of the pending claims in the present application.

Rejection of Claim 1 Under 35 U.S.C. § 102

The Office Action rejected Claim 1 under 35 U.S.C. § 102(e) as being anticipated by Hennessy. The Office Action asserts that Hennessy suggests each and every element of Claim 1. Applicants respectfully disagree. As amended, Claim 1 recites:

In a computer device that includes a display for displaying a graphical user interface that includes a pointer, a pointer input device, and an operating system, a method of guiding a pointer toward a target comprising:

in response to receiving notice of a pointer movement event, obtaining the current and projected coordinate positions of the pointer;

determining if the pointer will intersect a guide area during movement;

if the pointer intersects a guide area during movement, calculating an adjusted coordinate position for the pointer;

wherein pointer movement is redirected toward a target while inside the bounds of the guide area and wherein pointer movement inside the guide area is non-linear in one component direction in relation to movement of the input device; and

replacing the projected coordinate position of the pointer with the adjusted coordinate position.

Claim 1 recites a method in which the current and projected positions of a pointer on a graphical user interface is obtained. If the pointer will intersect a guide area provided by aspects

of the present invention, movement of the pointer is adjusted. More specifically, Claim 1 recites a method in which pointer "movement is redirected toward a target while inside the bounds of the guide area and wherein pointer movement inside the guide area is non-linear in one component direction in relation to movement of the input device." The claimed elements recited above indicate that the present invention redefines the mapping between pointer and input device movement in guide areas so that pointer movement is adjusted towards a target. In this regard, when the pointer intersects the guide area, the pointer is prevented from continuing on the current path. Instead, the pointer changes direction because the mapping between input device movement and pointer movement is redefined in a guide area to adjust pointer movement in a specific direction.

By contrast, Hennessy is directed to a method of operating a computer pointing device in a way that predicts the target and automatically moves the pointing device to that target. In order to predict which object on a computer display is the desired object, the path of travel and a rate of travel of a pointing device are computed. The rate of change in the position of the pointer is used to determine whether a user is "slowing down" while being directed at a specific object. If certain deceleration criteria are met, then the target that most closely matches the path of the pointing device is identified as the intended target. Once an intended target is identified, the pointer is automatically moved so that the target is acquired.

In contrast to Claim 1, Hennessy does not teach adjusting pointer movement so that the pointer is "redirected toward a target while inside the bounds of the guide area and wherein when a movement inside the guide area is nonlinear in one component direction in relation to movement of the input device." Instead, Hennessy teaches a system in which the desired location of a pointer is extrapolated based on the current projected path and movement of the point. Then, when an object has been identified as the intended target, the pointer "jumps" to a

different location on the computer display that is occupied by the "target." In the Hennessy system, the pointer does not have to "intersect" a specific area of the computers display (e.g., guide area) in order for movement of the pointer to change as recited in Claim 1. Instead, a user may be located anywhere on a computer display and be redirected toward the intended target. For example, as illustrated in FIGURE 1 of Hennessy, the pointer may be located on the opposite side of a computer display as an object. If the direction of pointer movement is toward the object and the speed of the pointer decelerates past a predetermined threshold, then the pointer may "jump" to the object. In contrast, Claim 1 recites a guide area and a pointer that "intersect" the bounds of the guide area in order for pointer movement to be redirected. These recited claim elements reflect that pointer movement is only redirected by aspects of the present invention on certain designated areas of a computer display that are proximately associated with a target. In this way, aspects of the present invention minimize side effects in that pointer movement is only redirected when a guide area is "intersected."

Claim 1 further recites that pointer movement inside the guide area is "non-linear in one component direction in relation to movement of the input device." By adjusting pointer movement in one component direction on a two-dimensional computer display, aspects of the present invention are able to change the direction of the pointer toward a target, given the same input device movement. Hennessy teaches changing pointer movement in multiple component directions in order to make acquiring a target easier. This aspect of Hennessy is clearly illustrated in FIGURE 1 and described in the associated description, which states:

A path of travel and the rate of travel of the cursor 15 are computed. Display objects, such as the button 16 and 17, which may exist along or near the path of travel are identified and designated as potential targets. A rate of change in the rate of travel (acceleration or deceleration) is also calculated. This information is used to decide if a user of the computer system 10 is slowing down in approach of a specific display object. If the acceleration/deceleration criteria is met, then that

target display object which the user is approaching is designated as an intended display object or target display object and the cursor 15 is translated smoothly to that target display object. After the pointer has been moved to the target display object, the pointer is maintained at that display object and small movements of the mouse 18 are ignored.

[Hennessy at paragraph 3, lines 40-55].

As the above-recited description and FIGURE 1 of Hennessy teach, pointer movement in multiple component directions is altered in order to make a target easier to acquire. In contrast, aspects of the present invention only change pointer movement in one component direction on the computer display when a guide area that is associated with a target is intersected. This recited claim element allows a user who does not want to acquire a target to traverse a target's associated guide areas and proceeds in the desired direction. As a result, aspects of the present invention minimize the side effects of altering pointer movement when compared to the disclosure taught in Hennessey. For at least the above-mentioned reasons, applicants submit that Hennessy does not teach all of the claim elements recited in Claim 1.

Under 35 U.S.C. § 102, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (February 2003.) Applicants respectfully submit that Hennessy fails to expressly or inherently teach, disclose, or suggest each and every element of Claim 1. As explained above, Hennessy fails to disclose or suggest making pointer movement nonlinear in one component direction when a guide area is intersected in order to make a target easier to acquire. Accordingly, applicants respectfully request withdrawal of the pending rejection with regard to Claim 1.

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Independent Claims 5 and 11

Claims 5 and 11 of the present application recite a user interface and a computer-readable medium that adjust pointer movement to facilitate acquiring a target that is displayed to the user. In this regard, independent Claim 5 recites a guide area in which pointer movement is redirected toward a target "wherein pointer movement inside the guide area is non-linear in one component direction in relation to movement of the input device." Similarly, Claim 11 recites a "pointer positioning component for determining whether the projected path of the pointer will intersect a guide area and providing the operating system component with adjusted coordinate positions, and wherein the pointer positioning component adjusts pointer movement in one component direction toward a target while inside the bounds of the guide area."

As described previously with regard to Claim 1, Hennessy fails to disclose and guide areas that are intersected in order for pointer movement to be alternated. Instead, Hennessy teaches adjusting pointer movement when a display object is in the projected path of the pointer and certain deceleration criteria have been met. If the direction of pointer movement is toward the object and the speed of the pointer decelerates past a predetermined threshold, then the pointer may "jump" to the object. The object may be on the opposite side of the computer display as the current position of the pointer. In contrast, independent Claims 5 and 11 recite a guide area where the bounds of the guide area dictate where pointer movement will be redirected. These recited claim elements reflect that pointer movement is only redirected by aspects of the present invention on certain designated areas of a computer display that are proximately associated with a target. Moreover, Hennessy does not teach or suggest making pointer movement nonlinear in one component direction when a guide area is intersected. By adjusting pointer movement in one component direction on a two-dimensional computer display, aspects of the present invention are able to change the direction of the pointer toward a target,

given the same input device movement. Hennessey teaches changing pointer movement in multiple component directions when a display object is in the projected path of the pointer and certain deceleration criteria has been met. Thus, for at least the above-stated reasons, applicants submit that Claims 5 and 11 are also in condition for allowance.

Claims 2-4, 6-10, and 12-15

Claims 2-4, 6-10, and 12-15 are dependent claims with all of the elements of the independent claims from which they depend. As discussed above, the cited reference fails to teach or suggest all of the limitations recited with regard to independent Claims 1, 5, and 11. Accordingly, for at least the reasons mentioned above in regards to independent Claims 1, 5, and 11, dependent Claims 2-4, 6-10, and 12-15 are allowable over the cited and applied reference. In addition, Claims 2-4, 6-10, and 12-15 further add to the patentability and non-obviousness of applicants' invention and are allowable for additional reasons.

CONCLUSION

Based on the above-referenced arguments, applicants respectfully submit that all of the pending claims of the present application are allowable over the cited and applied references. Accordingly, applicants respectfully request withdrawal of all the rejections of the claims of the present invention and allowance of the present application. If any questions remain, applicants request that the Examiner contact the undersigned at the telephone number listed below.

Respectfully submitted,

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